

## PATENT COOPERATION TREATY

## PCT

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P18918WO1	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2003/002037	International filing date (day/month/year) 19-12-2003	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant Telefonaktiebolaget LM Ericsson (publ) et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:
    - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- |                                     |              |                                                                                                                                                                 |
|-------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report                                                                                                                                             |
| <input type="checkbox"/>            | Box No. II   | Priority                                                                                                                                                        |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability                                                                |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention                                                                                                                                      |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited                                                                                                                                         |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application                                                                                                                |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application                                                                                                           |

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Date of submission of the demand 03-06-2005	Date of completion of this report 17-03-2006
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/002037

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Cover sheet

## International patent classification (IPC)

H04L 12/56 (2006.01)

H04L 29/06 (2006.01)

H04Q 7/22 (2006.01)

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/002037

Box No. I Basis of the report

## 1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 13 as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* 14 - 17 received by this Authority on 08.12.2005
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages 1 - 6 as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/002037

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-18</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-18</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-18</u>	YES
	Claims	_____	NO

## 2. Citations and explanations (Rule 70.7)

The invention concern a method, system and an associated node for efficient resource reservation in a packet switched telecommunications network and solves the problem of avoiding over-dimensioning and over-provisioning during resource reservation.

Document cited in the International Search Report:

D1: US20030227871

The cited document represents the general state of the art. The invention defined in the amended claims 1-18 is not disclosed by this document.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed method, system or node adapted for executing resource reservation in a packet switched telecommunications network. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-18 is novel and is considered to involve an inventive step. The invention is industrially applicable.

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WHAT IS CLAIMED IS:

1. A method in a packet switched telecommunications network comprising a plurality of nodes for providing resource reservation between a reservation initiator and a reservation receiver of an ON-OFF like traffic comprising the steps of:

- defining an object including descriptors of the desired Quality of Service (QoS), packet level traffic parameters characterizing the traffic envelope, and sub-object of description of source statistics for a call admission control;
- initializing reservation for a flow of transmission of the ON-OFF like traffic in the reservation initiator;
- reserving resources in the nodes along the flow of transmission;
- receiving reservation message in the reservation receiver;
- sending back an acknowledgement to the reservation initiator.

2. The method of claim 1 wherein the call admission control uses at least one sub-object of the source statistics description in each node along the flow of transmission.

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3. The method of claims 1 - 2 wherein the sub-object of description of the source statistics comprises information about type and at least one parameter of the distribution of the traffic.
4. The method of claim 1 - 3 wherein the distribution type of the length of the ON and/or OFF periods are exponential.
5. The method of claims 1 - 3 wherein the parameter of the length of the ON periods is the mean time of ON periods.
6. The method of claims 1 - 3 wherein the parameter of the length of the OFF periods is the mean time of ON periods.
7. The method of claims 1 - 6 wherein packet switched telecommunications network is an IP based network.
8. The method of claims 1 - 6 wherein nodes are routers of a Terrestrial Radio Access Network of a Universal Mobile Telecommunications Network (UTRAN).
9. The method of claims 1 - 6 wherein the call admission control uses at least one sub-object of source statistics description in edge nodes of a resource domain along the flow of transmission.
10. A system for providing resource reservation in a packet switched network including a reservation initiator (RI), a reservation receiver (RR) and a plurality of nodes linked together by transmission channels, in which system the resource reservation

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of an ON-OFF like traffic is implemented and wherein  
at least a part of the plurality of nodes include:

- means for processing descriptors of the  
desired QoS;
- means for processing packet level traffic  
parameters characterizing the traffic  
envelope, and
- means for processing description of source  
statistics.

11. The system of claim 10 wherein the reservation  
initiator (RI) is a base station controller and the  
reservation receiver (RR) is a radio network  
controller of the packet switched network.

12. The system of claim 10 wherein the reservation  
initiator (RI) is a radio network controller and the  
reservation receiver (RR) is a base station  
controller of the packet switched network.

13. The system of claim 10 wherein the nodes are IP  
routers of an IP network.

14. A node in a packet switched telecommunications  
network including sub-objects of

- descriptors of the desired QoS;
- packet level traffic parameters  
characterizing the traffic envelope, and
- description of source statistics;

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15. The node of claim 14 wherein the sub-object of description of the source statistics comprises information about type and at least one parameter of the distribution of the traffic.

16. The node of claims 14 - 15 wherein the distribution type of the length of the ON and/or OFF periods are exponential.

17. The node of claims 14 - 15 wherein the parameter of the length of the ON periods is the mean time of ON periods.

18. The node of claims 14 -15 wherein the parameter of the length of the OFF periods is the mean time of ON periods.